

### **REMARKS**

Claims 1-27 are currently pending.

The amendment to the Claims has been drafted to further broaden the scope of Applicant's patent coverage. Claim 10 has been amended for clarification only. Support for new Claims 21-27 is found in paragraphs 0005 and 0019 and original Claims 1 and 10. Support for Claim 22 is found in Figure 2. Support for Claims 23 and 26 is found in original Claims 5 and 13. Support for Claims 24 and 27 is found in paragraph 0024. It is respectfully submitted that no new matter has been added.

### **Claim Rejections – 35 U.S.C. 112, Second Paragraph**

Claims 1-20 were rejected under 35 U.S.C. 112, Second Paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention. The Claims are directed to a vortex unit. In Claims 1-16, the vortex unit comprises a vortex tube and a semiconductor processing device or a semiconductor testing device. In Claims 17-20, the vortex unit comprises a means for providing a vortex and a means for testing a semiconductor device. Applicant believes the terminology is sufficiently clear. Thus, it is respectfully requested that the Patent Office withdraw the rejection of Claims 1-20 under 35 U.S.C. 112, Second Paragraph.

### **Claim Rejection – 35 U.S.C. § 102(b)**

The Patent Office rejected Claims 1-20 under 35 U.S.C. 102(b) as being clearly anticipated by Amemiya, U.S. Patent No. 6,249,132.

The Patent Office rejected Claims 1-20 under 35 U.S.C. 102(b) as being clearly anticipated by Peters, U.S. Patent No. 4,848,090.

The present invention relates to a vortex unit that includes a vortex tube and a semiconductor processing or testing device. Cool air is provided to the semiconductor processing or testing device for semiconductor processing or testing. Figure 2 shows the semiconductor processing or testing device as a wafer sort machine that receives cool air 214 through three ducts 224, 226, 228 from a manifold 222 connected to the vortex tube.

A single reference must disclose all non-inherent claim limitations to be an anticipatory reference. MPEP 2131

Claims 1-9 recite a vortex unit comprising a vortex tube having an air inlet for receiving compressed air, a first air exhaust for outputting an air stream having a temperature greater than the received compressed air, and a second air exhaust for outputting an air stream having a temperature lower than the received compressed air; and a semiconductor processing device suitable for performing a semiconductor processing function, wherein the semiconductor processing device is connected to the second air exhaust of the vortex tube so that the semiconductor processing device receives a cooled air stream from the vortex tube, the cooled air stream providing an environment suitable for enabling the semiconductor processing device to perform the semiconductor processing function while being exposed to the desired environment. Claims 10-16 are similar in structure except a semiconductor testing device tests at least one function of a semiconductor device. Claims 17-20 are similar to Claims 10-16 except a means plus function format is used.

Amemiya discloses a semiconductor wafer 3 in a prober chamber 2 that is cooled to -70 degrees Celsius. Amemiya also discloses the wafer 3 is heated by warm air from a vortex tube to eliminate water condensation. As to all Claims, Amemiya does not teach a vortex tube providing cool air to a semiconductor processing or testing device because the vortex tube of Amemiya is used for heating and the cold air is colder than Amemiya's vortex tube can produce (see column 6, lines 12-17 and column 5, lines 53-55). Thus, Amemiya does not anticipate Claims 1-20.

Furthermore, Amemiya does not disclose the environment is approximately 25 degrees Celsius (claims 2 and 11), the semiconductor processing device includes a testing device (claim 3), a manifold (claims 5, 13, and 18), a platen area (claims 6, 14, and 19), a chuck top of a prober (claims 7, 14, and 20), and ducting of the first air exhaust (claim 9).

Thus, Claims 1-20 are not anticipated by Amemiya.

Peters discloses a thermoelectric heat pump to heat or cool a semiconductor device (column 1, lines 48-52) using a vortex tube assembly (column 2, lines 47-52).

Peters is directed to an apparatus for accurately controlling the temperature of a semiconductor device under test (column 1, lines 7-10).

Peters does not disclose a semiconductor processing function (claims 1-9). Peters does not disclose a vortex unit having a vortex tube and a semiconductor testing device for testing at least one function of a semiconductor (claims 10-16). Instead, Peters teaches a vortex tube to cool a semiconductor device for testing; there is no semiconductor testing device for testing a function of semiconductor. Similarly, Peters does not disclose a means for testing a semiconductor device (claims 17-20).

Furthermore, Peters does not disclose the environment is approximately 25 degrees Celsius (claims 2 and 11), the semiconductor processing device includes a testing device (claim 3), a manifold (claims 5, 13, and 18), a platen area (claims 6, 14, and 19), a chuck top of a prober (claims 7, 14, and 20), and ducting of the first air exhaust (claim 9).

Thus, Claims 1-20 are not anticipated by Peters.

New Claims 21-27 are believed to be allowable over the prior art of record.

**CONCLUSION**

In light of the forgoing arguments, reconsideration of the claims is hereby requested, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

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